



DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)
BOARD AND CODE ADMINISTRATION DIVISION

NOTICE OF ACCEPTANCE (NOA)

**MIAMI-DADE COUNTY
PRODUCT CONTROL SECTION**

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www.miamidade.gov/economy

Siplast

1111 Highway 67 South
Arkadelphia, AR 71923

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: Siplast Modified Bitumen Roof Systems over Concrete Decks.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA No. 11-0425.08 consists of pages 1 through 29.

The submitted documentation was reviewed by Jorge L. Acebo.



NOA No.: 12-1220.06
Expiration Date: 04/14/18
Approval Date: 04/11/13
Page 1 of 29

ROOFING SYSTEM APPROVAL

Category: Roofing
Sub-Category: Modified Bitumen
Deck Type: Concrete
Material: SBS
Maximum Design Pressure: -402.5 psf

TRADE NAMES OF PRODUCTS MANUFACTURED OR LABELED BY APPLICANT:

TABLE 1

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Parabase	3' x 108'	ASTM D4601	Asphalt coated fiberglass base sheet for mechanically fastened applications.
Parabase FS	3' x 108'	ASTM D4601	Asphalt coated fiberglass base sheet with a polyolefin back surfacing for mechanically fastened applications.
Parabase Plus	3.28' x 102.3'; 28 lbs./sq.	ASTM D4601	Elastomeric asphalt coated base sheet.
Paradiene 20	3.28' x 50'; 90 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with random fiberglass mat reinforcement used as the base ply of a Paradiene 20/30 system.
Paradiene 20 HT	3.28' x 50'; 90 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply of a Paradiene 20/30 system.
Paradiene 20 EG	3.28' x 33.5'; 90 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply in Paradiene systems.
Paradiene 20 HV	3.28' x 33.5'; 90 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with random fiberglass mat reinforcement used as a base ply of a Paradiene 20/30 system.
Paradiene 20 PR	3.28' x 50'; 55 lbs./sq.	ASTM D6164	Asphalt elastomer sheet with polyester fiberglass scrim composite reinforcement used as the top ply of a Paradiene 20/20 PR system having a gravel surfacing. Has additional puncture resistance.
Paradiene 20 TG	3.28' x 33.5'; 70 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with random fiberglass reinforcement used as the base ply of a Paradiene 20/30 TG Series system.
Paradiene 20 TG F	3.28' x 33.5'; 70 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with random fiberglass reinforcement used as the base ply of a Paradiene 20/30 TG Series system.



<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Paradiene 20 HT TG	3.28' x 33.5'; 70 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with fiberglass scrim reinforcement for use as a base ply of a Paradiene 20/30 system.
Paradiene 20 EG TG	3.28' x 33.5'; 100 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with fiberglass scrim reinforced for use as a base ply in Paradiene 20TG/30TG systems.
Paradiene 20 HV TG	3.28' x 33.5'; 100 lbs./sq.	ASTM D6163	Heavy duty asphalt elastomer sheet with random fiberglass mat reinforcement used as a base ply of a Paradiene 20TG/30TG system.
Paradiene 20 PR TG	3.28' x 33.5'; 96 lbs./sq.	ASTM D6164	High performance SBS modified bitumen finish ply designed for use in gravel surfaced. Used as a surface ply of a Paradiene 20/20TG system.
Paradiene 20 TS	3.28' x 33.5'; 76 lbs./sq.	ASTM D6163	High performance, semi adhered SBS modified bitumen with random fiberglass mat reinforcement used as a base ply of Paradiene 20/30 systems.
Paradiene 30 FR Paradiene 30 CR FR	3.28' x 33.5'; 85 lbs./sq.	ASTM D6163	Asphalt elastomer sheet with mineral surfacing and random glass mat reinforcement, for use as the top ply of a Paradiene 20/30 system.
Paradiene 30 HT FR	3.28' x 33.5'; 87 lbs./sq.	ASTM D6163	Fire-rated asphalt elastomer sheet with mineral surfacing and fiberglass scrim reinforcement for use as the top ply of a Paradiene 20/30 FR system.
Paradiene 30 MW FR	3.28' x 33.5'; 87 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing and ultra high tensile fiberglass reinforcement for use as the top ply of a Paradiene 20/30 FR system.
Paradiene 30 FR TG Paradiene 30 CR FR TG	3.28' x 25.25'; 80 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing and random fiberglass mat reinforcement for use as the top ply sheet of a Paradiene 20/30 TG Series system.
Paradiene 30 HT FR TG	3.28' x 25.25'; 80 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing and fiberglass scrim reinforcement for use as the top ply of a Paradiene TG Series system.
Paradiene 40 FR	3.28' x 26'; 115 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing, glass mat/glass scrim reinforced.
Paradiene 40 FR TG	3.28' x 26'; 115 lbs./sq.	ASTM D6163	Fire rated asphalt elastomer sheet with mineral surfacing, glass mat/glass scrim reinforced.

<u>Product</u>	<u>Dimensions</u>	<u>Test Specification</u>	<u>Product Description</u>
Parafor 50 LT	3.28' x 17.5'; 114 lbs./sq.	ASTM D6164	Heavy duty asphalt elastomer sheet with mineral surfacing, polyester mat scrim reinforced.
Parafor 50 TG	3.28' x 17.5'; 114 lbs./sq.	ASTM D6164	Heavy duty asphalt elastomer sheet with mineral surfacing, polyester mat scrim reinforced.
IREX 40	3.28' x 34'; 89 lbs./sq.	ASTM D6163	High-melt asphalt sheet with random fiberglass mat reinforcement for use as the base ply sheet for a Veral system.
IREX HT	3.28' x 34'; 89 lbs./sq.	ASTM D6163	High-melt asphalt sheet with fiberglass scrim reinforcement for use as a base ply sheet for the Veral system.
Veral Aluminum	3.28' x 33.5'; 90 lbs./sq.	ASTM D6298	Aluminum clad asphalt elastomer sheet with woven fiberglass reinforcement for use as the top ply sheet of a Veral system.
Veral Copper	3.28' x 33.5'; 105 lbs./sq.	ASTM D6298	Copper clad asphalt elastomer sheet with fiberglass scrim reinforcement for use as the top ply of a Veral system.
PA 100 Mopping Asphalt		ASTM D312 Type IV	Mopping Asphalt
PA 311/ 311 M/ 311 LS Adhesives	5 or 55 gal.	ASTM D4479	Blend of adhesive asphalts and quick-drying solvents.
PA 828 Flashing Cement	5 gal.	ASTM D4586	Flashing Cement
PA 1021 Plastic Cement	5 gal.	ASTM D4586	Asphalt cutback reinforced general purpose cement with non-asbestos fibers.
PA 1125 Asphalt Primer	5 or 55 gal.	ASTM D41	Asphalt primer.
PC – 227	5 or 55 gal	ASTM D6083	Elastomeric roof coating.
Para-Stik Insulation Adhesive	30 lb pressurized cylinders	Proprietary	A single component moisture curing Urethane foam adhesive

APPROVED INSULATIONS:**TABLE 2**

Product Name	Product Description	Manufacturer (With Current NOA)
Paratherm W, Paratherm H	Polyisocyanurate Insulation	Siplast
ACFoam II	Polyisocyanurate Insulation	Atlas Roofing Corp.
High Density Wood Fiberboard	High Density Wood Fiber insulation board.	Generic
Perlite Insulation Board	Approved Perlite Insulation	Generic
DensDeck	Water resistant gypsum	Georgia-Pacific Gypsum LLC
Georgia-Pacific High Density Roof Fiberboard	High Density Wood Fiber insulation board.	Georgia-Pacific Wood Products, LLC
H-Shield	Polyisocyanurate Insulation.	Hunter Panels LLC
ENRGY-3	Polyisocyanurate Insulation.	Johns Manville
DuraBoard	Expanded Mineral Fiber	Johns Manville
FescoBoard	Rigid perlite roof insulation board.	Johns Manville
MultiMax-3, Multi-Max FA-3	Polyisocyanurate foam insulation.	Rmax Operating, LLC
SECUROCK Gypsum-Fiber Roof Board	Water resistant recycled cellulose and synthetic gypsum	US Gypsum Corporation

APPROVED FASTENERS:**TABLE 3**

Fastener Number	Product Name	Product Description	Dimensions	Manufacturer (With Current NOA)
1.	N/A	N/A	N/A	N/A



EVIDENCE SUBMITTED:

<u>Test Agency/Identifier</u>	<u>Name</u>	<u>Report</u>	<u>Date</u>
Factory Mutual Research Corp.	FM 4470	J.I. 2Y1A1.AM	04/15/96
	FM 4470	J.I. 3Z3A7.AM	04/12/96
	FM 4470	3008071	01/18/01
	FM 4470	3008210	04/10/01
	FM 4470	3015680	11/24/03
	FM 4470	3021507	11/04/05
	FM 4470	3023079	05/12/06
	FM 4470	3026749	07/27/06
	FM 4470	3031655	05/27/08
	FM 4470	3033854	01/16/09
Atlantic & Caribbean Roof Consulting, LLC	TAS 114-D	04-002	10/05/04
	TAS 114-D	04-003	10/05/04
	TAS 114-D	06-025	06/28/06
	TAS 114-D	07-035	05/29/07
Underwriters Laboratories, Inc.	UL 790	R10630	03/11/13
Trinity-ERD	TAS 114	#4701.02.96-1	02/28/96
	TAS 114	#4701.09.96-1	08/22/96
	TAS 117	C8500SC.11.07	11/30/07
PRI Construction Materials Technologies LLC	ASTM D6163	SRI-037-02-01	11/15/12
	ASTM D6163	SRI-039-02-01	11/20/12
	ASTM D6164	SRI-041-02-01	11/15/12
	ASTM D6163	SRI-042-02-01	11/16/12
	ASTM D6163	SRI-042-02-02	11/18/12
	ASTM D5147/D6163	SRI-043-02-01	11/15/12
	ASTM D5147/D6164	SRI-044-02-01	12/07/12
	ASTM D5147/D6163	SRI-045-02-01	12/10/12
	ASTM D5147/D6163	SRI-045-02-03	11/18/12
	ASTM D5147/D6163	SRI-046-02-01	11/16/12
	ASTM D6164	SRI-047-02-01	12/07/12
	ASTM D6298	SRI-048-02-01	01/11/13
	ASTM D4601	SRI-049-02-01	11/13/12
	ASTM D4601	SRI-050-02-01	11/12/12
	ASTM D4601	SRI-051-02-01	11/12/12

APPROVED ASSEMBLIES

Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(1): All layers of insulation adhered with approved asphalt.

All General and System limitations apply.

Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
One or more layers of any of the following insulations:		
ENRGY-3, ACFoam-II, Paratherm W, H-Shield Minimum 1" thick	N/A	N/A
Approved Perlite Minimum ¾" thick	N/A	N/A
Approved High Density Wood Fiberboard Minimum ½" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG or 20 EG TG adhered by torch or Paradiene 20, 20 HT, 20 HV or 20 EG adhered with approved mopping asphalt at an application rate of 20-40 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 20 PR, 30 FR, 30 CR FR, 30 MW FR or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 PR TG, Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG or Parafor 50 TG adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -52.5 psf (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(2): All layers of insulation adhered to deck with approved asphalt.

All General and System limitations apply.

Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
One or more layers of any of the following insulations:		
ENRGY-3, AC Foam-II, Paratherm W, H-Shield Minimum 1" thick	N/A	N/A
Approved Perlite Minimum ¾" thick	N/A	N/A
Approved High Density Wood Fiberboard Minimum ½" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of base sheet. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: IREX 40, IREX HT, Paradiene 20, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or IREX 40, IREX HT, Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG applied by torch.

Membrane: Veral Aluminum or Veral Copper adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -45 psf (See General Limitation #9)

Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(3): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

Base Insulation Layer (Optional)

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

One or more layers of any of the following insulations:

**Paratherm H, Multi-Max-3, Multi-Max FA-3, H-Shield
Minimum 1.5" thick**

N/A

N/A

Top Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

**DensDeck
Minimum ¼" thick**

N/A

N/A

**DuraBoard
Minimum ¾" thick**

N/A

N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft² or Insta-Stik/Para-Stik adhesive applied in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG adhered by torch or Paradiene 20, 20 HT, 20 HV, 20 EG adhered with approved mopping asphalt at an application rate of 20-40 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 20 PR, 30 FR, 30 CR FR, 30 MW FR or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 PR TG, Paradiene 30 FR TG, 30 CR FR TG or 30 HT FR TG adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal/sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

**Maximum Design
Pressure:**

- 157.5 psf (using DensDeck) (See General Limitation #9)
- 112.5 psf (using DuraBoard) (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(4): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

Base Insulation Layer (Optional)

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

One or more layers of any of the following insulations:

**Multi-Max-3, Multi-Max FA-3, H-Shield, Paratherm H
Minimum 1.5" thick**

N/A

N/A

Top Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

DensDeck

Minimum ¼" thick

N/A

N/A

DuraBoard

Minimum ¾" thick

N/A

N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft² or Insta-Stik/Para-Stik adhesive applied in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: IREX 40, IREX HT, Paradiene 20, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq.

Membrane: Veral Aluminum or Veral Copper adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design

Pressure: -157.5 psf (using DensDeck) (See General Limitation #9)
-112.5 psf (using DuraBoard) (See General Limitation #9)



Membrane Type: SBS

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(5): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

ENRGY-3, H-Shield

Minimum 1.5" thick

N/A

N/A

Top Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

Approved Perlite

Minimum ¾" thick

N/A

N/A

Approved High Density Wood Fiberboard

Minimum ½" thick

N/A

N/A

DensDeck

Minimum ¼" thick

N/A

N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV, 20 EG adhered in full mopping of asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG, adhered by torch.

Membrane: Paradiene 20 PR, 30 FR, 30 CR FR, 30 MW FR or 30 HT FR adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 PR TG, Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG or Parafor 50 TG adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design

Pressure:

-240 psf (using Approved Perlite) (See General Limitation #9)

-370 psf (using DensDeck) (See General Limitation #9)

-375 psf (using High Density Wood Fiberboard) (See General Limitation #9)



Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(6): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

ENRGY-3, H-Shield

Minimum 1.5" thick

N/A

N/A

Top Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

Approved Perlite

Minimum ¾" thick

N/A

N/A

Approved High Density Wood Fiberboard

Minimum ½" thick

N/A

N/A

DensDeck

Minimum ¼" thick

N/A

N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal./sq. or Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG, adhered by torch.

Membrane: Veral Aluminum or Veral Copper adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.

2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design

Pressure:

-240 psf (using Approved Perlite) (See General Limitation #9)

-370 psf (using DensDeck) (See General Limitation #9)

-375 psf (using High Density Wood Fiberboard) (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(7): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
ACFoam II, Paratherm W, H-Shield Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft²
DensDeck Minimum ¼" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered with PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 30 FR, 30 CR FR, or 30 HT FR adhered in PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

- 1.400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal/sq.
- 2.400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -180 psf (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(8): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

**ACFoam II, Paratherm W, H-Shield
Minimum 1.5" thick**

N/A

N/A

Top Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

**Georgia Pacific High Density Roof Fiberboard
Minimum ½" thick**

N/A

N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered with PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 30 FR, 30 CR FR, or 30 HT FR adhered in PA 311 or PA 311 M at a rate of 1.5-2 gal/sq

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1.400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.

2.400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design

Pressure: -75 psf (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(9): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

**ACFoam II, Paratherm W, H-Shield
Minimum 1.5" thick**

N/A

N/A

Top Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

**FescoBoard
Minimum ¾" thick**

N/A

N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered with PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 30 FR, 30 CR FR, or 30 HT FR adhered in PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.

2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

**Maximum Design
Pressure:**

-120 psf (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(10): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

One or more layers of any of the following insulations:

Base Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

**ACFoam II, Paratherm W, H-Shield
Minimum 1.5" thick**

N/A

N/A

Top Insulation Layer

**Insulation Fasteners
Table 3**

**Fastener
Density/ft²**

**DuraBoard
Minimum ¾" thick**

N/A

N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered to the deck in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered with PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 30 FR, 30 CR FR, or 30 HT FR adhered in PA 311 or PA 311 M at a rate of 1.5-2 gal/sq.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -82.5 psf (See General Limitation #9)

Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(11): All layers of insulation adhered to deck with approved asphalt or adhesive.

All General and System limitations apply.

Base Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
One or more layers of any of the following insulations:		
ACFoam II, Paratherm W, H-Shield Minimum 1.5" thick	N/A	N/A
Top Insulation Layer	Insulation Fasteners Table 3	Fastener Density/ft ²
SECUROCK Gypsum-Fiber Roof Board Minimum ¼" thick	N/A	N/A

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of insulation. All insulation shall be adhered with Insta-Stik/Para-Stik adhesive applied in continuous ¾" to 1" wide beads at a maximum spacing of 12" o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with PA 311 or PA 311 M/311LS cold adhesive at a rate of 1.5-2 gal/sq. applied at a rate of 1.5-2.5 gal/square or Paradiene 20 TG, 20 HT TG or 20 EG TG, adhered by torch.

Ply Sheet: None.

Membrane: Paradiene 30 FR, 30 CR FR, or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or PA 311 or PA 311 M or 311 LS adhesive at a rate of 1.5-2 gal/sq. or Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG, Parafor 50 LT, Veral Aluminum, Veral Copper, adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal/sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -285 psf (See General Limitation #9)



Membrane Type: SBS/SBS Foil
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type A(12): Vapor barrier and insulation adhered with approved asphalt or adhesive.

All General and System Limitations apply.

Vapor Barrier: Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered or Paradiene 20, Paradiene 20 HT, Paradiene 20 EG or Paradiene 20 HV adhered to the deck with hot asphalt at an application rate of 20-25 lbs./sq.

Insulation Base Layer (Optional):	Insulation Fasteners Table 3	Fastener Density/ft²
Multi-Max 3, Multi-Max FA-3, H-Shield, Paratherm H		
Minimum: 1.5" thick	N/A	N/A
Insulation Top Layer:	Insulation Fasteners Table 3	Fastener Density/ft²
DensDeck		
Minimum ¼" thick	N/A	N/A
DuraBoard		
Minimum ¾" thick	N/A	N/A

Note: All insulation shall be adhered with Para-Stik Roofing Adhesive or OlyBond 500 Adhesive Fastener applied in continuous ¾ to 1 in. ribbons spaced 12 in. o.c. or OlyBond Adhesive Fastener applied at a rate of 1.0 gal/sq. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate.

Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: Paradiene 20 TG, Paradiene 20 HT TG or Paradiene 20 EG TG torch adhered or Paradiene 20, Paradiene 20 HT, Paradiene 20 EG, Paradiene 20 HV, IREX 40 or IREX HT hot asphalt applied at an application rate of 20-40 lbs./sq. or adhered with Siplast PA-311 or PA-311 M cold adhesive at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 30 FR, Paradiene 30 HT FR, Paradiene 30 FR TG, Paradiene 30 HT FR TG, Paradiene 40 FR, Veral Aluminum, Veral Copper, or Parafor 50 LT adhered to the base sheet with hot asphalt at an application rate of 20-40 lbs./sq.; Siplast PA-311 or PA-311 M cold adhesive at a rate of 1.5-2 gal/sq.; or torch adhered (if torch grade membrane is used).

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal/sq.

2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -82.5 psf with PA-311 M adhesive over DuraBoard as Top Layer.

(See General Limitation #9)

-112.5 psf with hot asphalt or PA-311 adhesive over DuraBoard as Top Layer.

(See General Limitation #9)

-157.5 psf with any adhesive listed above over DensDeck as Top Layer.

(See General Limitation #9)



Membrane Type: SBS/SBS Foil

Deck Type 3I: Concrete Decks, Insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type A(13): Vapor barrier torch adhered onto deck and insulation adhered with approved asphalt onto vapor barrier.

All General and System Limitations apply.

Vapor Barrier: Paradiene 20 TG, Paradiene 20 HT TG or IREX 40 vapor retarder is torch adhered to deck primed with PA-1125 at a rate of 1 gal/square (0.4 liter/m²).

Insulation Base Layer:	Insulation Fasteners Table 3	Fastener Density/ft²
Paratherm H, Paratherm W, ACFoam II, H-Shield (Tapered or Flat) Minimum 1" thick	N/A	N/A
Insulation Top Layer:	Insulation Fasteners Table 3	Fastener Density/ft²
DensDeck Minimum 1/4" thick	N/A	N/A

**Approved High Density Wood Fiberboard
Minimum 1/2" thick**

Note: All insulation shall be adhered in full mopping of approved asphalt within the EVT range and at a rate of 20-40 lbs./100 ft². Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: Paradiene 20 TG, Paradiene 20 HT TG, or Paradiene 20 EG TG torch adhered onto DensDeck cover board only.
Option 1

Membrane: Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG torch adhered onto the base sheet (option 1) above.
Option 1

Base Sheet: Paradiene 20, 20 HT, 20 EG, or 20 HV, hot asphalt applied at a minimum rate of 20 lb/sq (0.1 kg/m²) onto High Density Wood Fiberboard cover board only.
Option 2

Membrane: Paradiene 30 FR, 30 CR FR, 30 HT FR, or Parafor 50 LT surfacing membrane is hot asphalt applied at a minimum rate of 20 lb/sq (0.1 kg/m²) onto the base sheet (option 2) above.
Option 2

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -202.5psf (see general limitation 9)



Membrane Type: SBS/SBS Foil
Deck Type 3I: Concrete Decks, Insulated
Deck Description: 3000 psi structural concrete
System Type A(14): Vapor barrier torch adhered to deck and insulation adhered with approved adhesive onto vapor barrier.

All General and System Limitations apply.

Vapor Barrier: IREX 40 torch adhered to deck primed with PA-1125 at a rate of 1½ -2 gal/square.

Insulation Base Layer:	Insulation Fasteners Table 3	Fastener Density/ft²
ACFoam II, Paratherm W Minimum: 1.5" thick	N/A	N/A
Insulation Top Layer:	Insulation Fasteners Table 3	Fastener Density/ft²
DensDeck Minimum ¼" thick	N/A	N/A

Note: All insulation shall be adhered with Para-Stik Roofing Adhesive applied in continuous ¾ to 1 in. ribbons spaced 12 in. o.c. Please refer to Roofing Application Standard RAS 117 for insulation attachment. Insulation listed as base layer only shall be used only as base layers with a second layer of approved top layer insulation installed as the final membrane substrate. Composite insulation panels used as a top layer shall be placed with the polyisocyanurate side facing down.

Base Sheet: Paradiene 20 TG torched adhered onto Den Deck primed with PA-1125 at a rate of 2-2½ gal/square.

Membrane: Paradiene 30 FR TG torch adhered onto the base sheet.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -142.5psf (See General Limitation #9)

Membrane Type: SBS
Deck Type 3: Concrete Decks, Non-insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type F(1): Optional vented base sheet, loose laid, followed by asphalt or torch applied ply sheet.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet: Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG adhered by torch or Paradiene 20, 20 HT, 20 HV, 20 EG adhered with approved mopping asphalt at an application rate of 20-40 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq.

Membrane: Paradiene 20 PR, 30 FR, 30 CR FR, 30 MW FR or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 PR TG, Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG or Parafor 50 TG adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -120 psf (See General Limitation #9)

Membrane Type: SBS Foil
Deck Type 3: Concrete Decks, Non-insulated
Deck Description: 2500 psi structural concrete or concrete plank
System Type F(2): Optional vented base sheet, loose laid, followed by asphalt or torch applied ply sheet.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet: IREX 40, IREX HT, Paradiene 20, 20 HT, 20 HV or 20 EG adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or IREX 40, IREX HT, Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG applied by torch.

Membrane: Veral Aluminum or Veral Copper adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or by torch

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -120 psf (See General Limitation #9)

Membrane Type: SBS

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(3): Membrane adhered with asphalt or torch applied.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet: Paradiene 20, 20 HT, 20 HV, 20 EG adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 TG, 20 TG F, 20 HV TG, 20 HT TG, 20 EG TG adhered by torch.

Membrane: Paradiene 20 PR, 30 FR, 30 CR FR, 30 MW FR or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 PR TG, Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG or Parafor 50 TG adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure:

-230 psf (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(4): Membrane adhered with asphalt or torch applied.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet: Paradiene 20, 20 HT, 20 HV or 20 EG adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq. or with PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 TG, 20 HV TG, 20 HT TG or 20 EG TG, adhered by torch.

Membrane: Veral Aluminum or Veral Copper adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq. or adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -230 psf (See General Limitation #9)

Membrane Type: SBS

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(5): Membrane adhered with asphalt or torch applied.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet: Paradiene 20 TG, 20 HV TG, 20 HT TG, 20 EG TG adhered by torch

Membrane: Paradiene 20 PR, 30 FR, 30 CR FR, 30 MW FR or 30 HT FR adhered in approved mopping asphalt at an application rate of 20-40 lbs./sq. or PA 311 or PA 311 M adhesive at a rate of 1.5-2 gal/sq. or Paradiene 20 PR TG, Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG or Parafor 50 TG adhered by torch.

Note: Refer to manufacturer's specifications for specific application requirements.

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -402.5 psf (See General Limitation #9)

Membrane Type: SBS Foil

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(6): Membrane adhered with asphalt or torch applied.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet: IREX 40 or IREX HT adhered by torch.

Membrane: Veral Aluminum or Veral Copper adhered in full mopping of approved asphalt applied within the EVT range and at a rate of 20-25 lbs./sq. or adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.

2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -402.5 psf (See General Limitation #9)

Membrane Type: SBS

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(7): Membrane adhered by torch.

All General and System limitations apply.

Note: Concrete deck shall be primed with ASTM D 41 asphalt primer and allowed to dry prior to application of anchor sheet.

Ply Sheet: Paradiene 20 TS adhered by torch.

Membrane: Paradiene 30 FR TG, 30 CR FR TG, 30 HT FR TG, or Parafor 50 TG adhered by torch.

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure: -120 psf (See General Limitation #9)

Membrane Type: SBS

Deck Type 3: Concrete Decks, Non-insulated

Deck Description: 2500 psi structural concrete or concrete plank

System Type F(8): Membrane adhered with asphalt or torch applied.

All General and System limitations apply.

Note: Concrete deck shall be primed with Paradiene PA-1125 applied at a rate of 1 gal/square and allowed to dry prior to application of base sheet.

Base Sheet: Paradiene 20 TS or Paradiene 20 TG base membrane torch adhered to primed concrete

Membrane: Paradiene 30 FR TG, 30 CR FR TG or 30 CR FR HT TG cap sheet torch adhered to the base sheet or Paradiene 30 FR, 30 HT FR, 30 CR FR HT or 30 CR FR adhered to the base sheet in hot asphalt at 20-25 lbs./sq. uare

Note: **Refer to manufacturer's specifications for specific application requirements.**

Surfacing: Optional when granular surfaced membranes are used Required with non-granular surfaced membranes. Install one of the following:

1. 400 lbs./sq. gravel in a flood coat of PA-311 or PA-311 M adhesive at an application rate of 3 gal./sq.
2. 400 lbs./sq. gravel in a flood coat of asphalt applied at a rate of 60 lbs./sq.

Maximum Design Pressure:
-352.5 psf with Paradiene 20 TS base membrane (See General Limitation #9)
-367.5 psf with Paradiene 20 TG base membrane (See General Limitation #9)

CONCRETE DECK SYSTEM LIMITATIONS:

1. If mechanical attachment to the structural deck through the lightweight insulating concrete is proposed, a field withdrawal resistance testing shall be performed to determine equivalent or enhanced fastener patterns and density. All testing and fastening design shall be in compliance with Testing Application Standard TAS 105 and Roofing Application Standard RAS 137, calculations shall be signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant.

GENERAL LIMITATIONS:

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire ratings of this product.
2. Insulation may be installed in multiple layers. The first layer shall be attached in compliance with Product Control Approval guidelines. All other layers shall be adhered in a full mopping of approved asphalt applied within the EVT range and at a rate of 20-40 lbs./sq., or mechanically attached using the fastening pattern of the top layer
3. All standard panel sizes are acceptable for mechanical attachment. When applied in approved asphalt, panel size shall be 4' x 4' maximum.
4. An overlay and/or recovery board insulation panel is required on all applications over closed cell foam insulations when the base sheet is fully mopped. If no recovery board is used the base sheet shall be applied using spot mopping with approved asphalt, 12" diameter circles, 24" o.c.; or strip mopped 8" ribbons in three rows, one at each side lap and one down the center of the sheet allowing a continuous area of ventilation. Encircling of the strips is not acceptable. A 6" break shall be placed every 12' in each ribbon to allow cross ventilation. Asphalt application of either system shall be at a minimum rate of 12 lbs./sq. **Note: Spot attached systems shall be limited to a maximum design pressure of -45 psf.**
5. Fastener spacing for insulation attachment is based on a Minimum Characteristic Force (F') value of 275 lbf., as tested in compliance with Testing Application Standard TAS 105. If the fastener value, as field-tested, are below 275 lbf. insulation attachment shall not be acceptable.
6. Fastener spacing for mechanical attachment of anchor/base sheet or membrane attachment is based on a minimum fastener resistance value in conjunction with the maximum design value listed within a specific system. Should the fastener resistance be less than that required, as determined by the Building Official, a revised fastener spacing, prepared, signed and sealed by a Florida Registered Engineer, Architect, or Registered Roof Consultant may be submitted. Said revised fastener spacing shall utilize the withdrawal resistance value taken from Testing Application Standards TAS 105 and calculations in compliance with Roofing Application Standard RAS 117.
7. Perimeter and corner areas shall comply with the enhanced uplift pressure requirements of these areas. Fastener densities shall be increased for both insulation and base sheet as calculated in compliance with Roofing Application Standard RAS 117. Calculations prepared, signed and sealed by a Florida registered Professional Engineer, Registered Architect, or Registered Roof Consultant **(When this limitation is specifically referred within this NOA, General Limitation #9 will not be applicable.)**
8. All attachment and sizing of perimeter nailers, metal profile, and/or flashing termination designs shall conform to Roofing Application Standard RAS 111 and applicable wind load requirements.
9. The maximum designed pressure limitation listed shall be applicable to all roof pressure zones (i.e. field, perimeters, and corners). Neither rational analysis, nor extrapolation shall be permitted for enhanced fastening at enhanced pressure zones (i.e. perimeters, extended corners and corners). **(When this limitation is specifically referred within this NOA, General Limitation #7 will not be applicable.)**
10. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 9N-3 of the Florida Administrative Code.

END OF THIS ACCEPTANCE



NOA No.: 12-1220.06
Expiration Date: 04/14/18
Approval Date: 04/11/13
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